

What is Claimed is:

1. A surveillance and security system for automatic detection and warning of detected events, said system comprising:

means for observing behavior in a predetermined area under surveillance;

means for processing an output of observed behavior from said means for observing, said means for processing including a pattern recognition means for recognizing whether said observed behavior is associated with predefined suspicious behaviors; and

means for notifying that said pattern recognition means recognizes at least one behavioral pattern associated with said set of predefined suspicious behaviors has been observed by said means for observing.

2. The system according to Claim 1, wherein said means for observing includes cameras.

3. The system according to Claim 1, wherein said means for observing includes sensors.

4. The system according to Claim 3, wherein said sensors sense sounds.

5. The system according to Claim 1, wherein said means for notifying includes warning signals communicated to a monitoring site.

6. The system according to Claim 1, wherein said means for notifying includes a plurality of alert codes corresponding to a severity level of said at least one behavioral pattern

associated with said set of predefined suspicious behaviors recognized by said pattern recognition means.

7. The system according to Claim 1, wherein said area under surveillance includes a retail store, and said predefined suspicious behaviors recognized by said pattern recognition means includes recognizing a plurality of people entering the store as one group, said plurality subsequently separating into sub-groups in different portions of the store, and re-emerging as said one group when leaving the store.

8. The system according to Claim 1, wherein said area under surveillance includes a retail store, and said predefined suspicious behaviors recognized by said pattern recognition means includes recognizing that a particular shopper has walked up and down a predetermined number of aisles without selecting an item for purchase.

9. The system according to Claim 8, wherein said pattern recognition means further comprises recognizing continuous movement of a head of said particular shopper for a predetermined amount of time.

10. The system according to Claim 1, wherein said area under surveillance includes a retail store, and said pattern recognition means further comprises recognizing continuous movement of a head of a particular shopper for a predetermined amount of time.

11. The system according to Claim 8, wherein said pattern recognition means further comprises recognizing that said particular shopper has spent a predetermined amount of time in the store without selecting an item for purchase.

5 12. The system according to Claim 1, wherein said area under surveillance includes a retail store, and said pattern recognition means further comprises recognizing that a particular shopper is carrying a bag.

10 13. The system according to Claim 12, wherein said pattern recognition further comprises recognizing that said particular shopper is manipulating the bag.

15 14. The system according to Claim 1, wherein said area under surveillance includes a retail store and a predetermined area outside of said store, and said pattern recognition means recognizing when a person is in the predetermined area outside of said store for a predetermined amount of time.

15 15. The system according to Claim 1, wherein said area under surveillance includes a retail store, and said pattern recognition means recognizes that a particular shopper is wearing a coat when an outside temperature is greater than a predetermined value.

20 16. A method for surveillance and detection of suspicious behavior, said method comprising the steps of:

(a) observing behavior of a person in a predetermined area under surveillance;

(b) identifying whether the behavior observed in step (a) is associated with at least one of a plurality of predetermined suspicious behaviors by comparing the behavior observed with a plurality of predetermined behavioral patterns in a pattern recognition module;

(c) notifying security when the behavior observed has been identified as being associated with at least one of the plurality of predetermined behavioral patterns in the recognition module.

17. The method according to Claim 16, further comprising: (d) increasing surveillance of said person whose behavior was observed in step (a) upon notification of security in step (c).

18. The method according to Claim 16, wherein the behavior is observed in step (a) with cameras.

19. The method according to Claim 16, wherein the behavior is observed in step (a) with sensors.

20. The method according to Claim 19, wherein the sensors sense sounds.

21. The method according to Claim 16, wherein the notifying includes providing warning signals to a monitoring site.

22. The method according to Claim 16, wherein the notifying in step (a) includes providing an alert code selected from a plurality of alert codes indicating a severity of said one of the predetermined behavioral patterns recognized by the pattern recognition module.

5 23. The method according to Claim 16, wherein at least one of the predetermined behavioral patterns in the recognition module includes recognizing when a plurality of people enter the area under surveillance as a single group, subsequently separate into sub-groups while moving through the area under surveillance, and subsequently re-emerging as said single group when leaving the store.

10 24. The method according to Claim 16, wherein the area under surveillance is a retail store, and at least one of the predetermined behavioral patterns in said pattern recognition module includes recognizing when a particular shopper has walked up a down a predetermined number of aisles without selecting an item for purchase.

15 25. The method according to Claim 16, wherein the area under surveillance is a retail store, and at least one of predetermined behavioral patterns in said pattern recognition module includes recognizing when a particular shopper has stayed in one aisle for a predetermined amount of time without selecting an item for purchase.

20 26. The method according to Claim 16, wherein one of the predetermined behavioral patterns in said pattern recognition module includes recognizing movement of a head for a predetermined amount of time by a person in the area under surveillance.

27. The method according to Claim 25, wherein one of the predetermined behavioral patterns in said pattern recognition module includes recognizing movement of a head for a predetermined amount of time by the particular shopper.

5

28. The method according to Claim 16, wherein the area under surveillance is a retail store, and wherein one of the predetermined behavioral patterns in said pattern recognition module includes recognizing that a particular shopper is carrying a bag.

29. The method according to Claim 28, wherein one of the predetermined behavioral patterns in said pattern recognition module includes recognizing that said particular shopping is manipulating the bag.

30. The method according to Claim 16, wherein the area under surveillance is a store, and wherein one of the predetermined behavioral patterns in said pattern recognition module includes recognizing that a particular shopper is wearing a coat when an outside temperature is above a predetermined amount.

31. The method according to Claim 16, wherein the area under surveillance comprises an interior portion and an exterior portion of a store, and wherein one of the predetermined behavioral patterns in said pattern recognition module includes recognizing when a particular person has been in the exterior portion of the store for a predetermined amount of time.